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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/140,862	08/27/1998	JONATHAN D. ALBERT	INK-006	9214

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TESTA, HURWITZ & THIBEAULT, LLP
HIGH STREET TOWER
125 HIGH STREET
BOSTON, MA 02110

EXAMINER

LEWIS, DAVID LEE

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 12/04/2001

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/140,862

Applicant(s)

Albert et al.

Examiner

David L Lewis

Art Unit

2673



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Sep 12, 2001

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-10 is/are pending in the application

4a) Of the above, claim(s) _____ is/are withdrawn from consideration

5) ☒ Claim(s) 10 is/are allowed.

6) ☒ Claim(s) 1-9 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirements

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

- 1. ☐ Certified copies of the priority documents have been received.
- 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other:

Title: Color Electrophoretic Displays

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on 9/12/01, PROSECUTION IS HEREBY REOPENED.
New Grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (a) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (b) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Allowable Subject Matter

2. **Claim 10 is allowed.** The Applicants arguments filed on 9/12/01 are persuasive.

Title: Color Electrophoretic Displays

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota (3756693) in view of Naoyuki (JP 4010861⁶~~1~~A) and Saxe et al. (5650872).**

JK

5. **As in claims 1 and 6, Ota teaches of an electrophoretic display, figure 3, comprising: a substrate, column 2 lines 20-30, a suspending fluid and at least two particle, column 4 lines 54-67; at least two electrodes disposed adjacent the particles, said at least two electrodes disposed between said substrate and said particles, wherein application of a voltage potential to one of said at least two electrodes causes said particles to migrate within the suspending fluid, causing said capsule to change its visual state, column 1 lines 15-50, column 2 lines 55-67, wherein the two particles have different mobilities, column 5 lines 1-16, column 7 lines 50-68, and further wherein a broadly interpreted the volume**

Title: Color Electrophoretic Displays

of an electrophoretic dispersion is encapsulated in between housing walls 4 and 5 to form at least one capsule. However Ota is silent as to the display particles being within a capsule, the type that may be considered in plurality. Modifying the display as taught by Ota to include capsulized particles is well known and would be obvious to the skilled artisan. Naoyuki teaches of an encapsulated, see abstract, wherein the migrating particles are prevented from aggregating or adhering to the electrodes when the electric field is applied, suppressing the formation of display defects. Naoyuki takes a well known electrophoretic system and particle dispersion, and microencapsulate the particle dispersion to improve display quality of electrophoretic display particles in a binder for the purpose of improving the display. Wherein the sticking of the particles to the display electrodes is eliminated and a uniform and stable display operation is the result. Further, Saxe et al. teaches of modifying a display similar to that suggested by Ota, and encapsulating two or more species of particles in a cell obviously containing fluid, column 13 lines 40-45, said particles are of the electrophoretic migrating type, column 3 lines 20-25, column 7 lines 55-64. Therefore it would have been obvious to the skilled artisan at the time of the invention to modify the display as taught by Ota to include capsulized particles as taught by Naoyuki and Saxe et al. for the purpose of eliminating sticking of the particles and creating a uniform and stable display, as suggested by Naoyuki, and encapsulating two or more types of particles as suggested by Saxe et al.. As in claim 2, Ota (693) teaches where the particle mobilities are non-overlapping, column 5 lines 1-16, column 7 lines 50-68, wherein different mobilities of opposite polarities are non-overlapping.

Title: Color Electrophoretic Displays

6. **Claims 3-5, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota (3756693) in view of Naoyuki (JP 40108611⁶A), Saxe et al. (5650872), and Ota et al. (3870517).** DX
7. **As in claim 3**, Ota (693) in view of Naoyuki teaches of the invention as applied to claim 1 above. Further, Ota et al. (517) demonstrates how the two particles can be three in number and of varying colors, column 2 lines 55-68, and since the particles can act as the primary image colorant the skilled artisan could obviously choose red, blue, and green as the particle colors well known as the prime colors in a colored spectrum display system. **As in claims 4 and 7**, Ota (517) teaches of a suspending fluid being transparent, column 4 lines 15-22, wherein colorless obviously implies transparent, column 1 lines 20-25. **As in claim 5**, Ota (517) teaches of the suspending medium being dyed, column 7 lines 15-25. **As in claim 8**, Ota (693) teaches of a color coated transparent electrode, column 8 lines 10-20, and a colored particle of optical reflective color and/or luminescent property, column 4 lines 54-67, wherein depending on the background/foreground color scheme desired the particle would obviously be the have the same optical property as the electrode to hide the particles in a non-display voltage state, column 5 lines 16-37. **As in claim 9**, Ota (517) teaches of the at least one particle being white, column 7 lines 17-30, wherein the colorless suspending fluid can obviously be made white by a white particle used as a dye means to achieved the desired color, figure 3a item 15.

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Response to Arguments

8. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection. The rejection has been modified by the addition of Saxe et al., who teaches of encapsulating two or more particles of the electrophoretic migrating type. Ota teaches of two particles of different mobilities of the electrophoretic type. Naoyuki teaches of the need for encapsulation as also taught by Saxe et al.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is (703) 306-3026. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on (703) 305-4938. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

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Any response to this action should be mailed to:

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Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA,
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should
be directed to the Technology Center 2600 Customer Service Office whose telephone number is
(703) 306-0377.



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Examiner: David L. Lewis

November 30, 2001